In The Claims

Please amend the claims as follows:

1-11 (canceled)

12. (withdrawn) A microscope assemblage, in particular for confocal scanning microscopy, comprises: a light source (1) for illuminating a specimen (6), at least one fluorescent-light detector (11, 14) for the detection of fluorescent light (10, 13) generated in the specimen (6); at least one transmitted-light detector (16) for the detection of transmitted light (15) passing through the specimen (6), wherein the fluorescent-light and transmitted-light detectors (11, 14; 16) are arranged to enable simultaneous detection of fluorescent and transmitted light (10, 13; 15) and a first polarization device is provided between the light source (1) and the specimen (6), a second polarization device in provided after the specimen (6).

13. (withdrawn) The microscope assemblage as in Claim 12, characterized in that the first polarization device is provided before the objective (5), and the second polarization device is provided after the condenser (7).

14. (withdrawn) The microscope assemblage as defined in Claim 13, characterized in that the polarization devices are prisms (18).

15. (withdrawn) The microscope assemblage as defined in Claim 14, characterized in that the prisms (18) are Wollaston prisms.

16. (withdrawn) The microscope assemblage as defined in Claim 12, characterized in that the specimen (6) defines a top side (6a) facing the light source (1) and a bottom side (6b)

facing away from the light source (1) and least one fluorescent-light detector (11, 14) is arranged on the side of the specimen (6) facing away from the light source (1).

17. (withdrawn) The microscope assemblage as defined in Claim 16, characterized in that at least one transmitted-light detector (16) is arranged on the side of the specimen (6) facing away from the light source (1).

18. (withdrawn) The microscope assemblage as defined in Claim 17, characterized in that a condenser (7) for the transmitted light (15) and the fluorescent light (10, 13) is arranged on the side of the specimen (6) facing away from the light source (1).

19. (withdrawn) The microscope assemblage as defined in Claim 18, characterized in that an objective (5) is arranged between the light source (1) and the specimen (6) and the aperture of the condenser (7) is larger than the aperture of the objective (5).

20. (withdrawn) The microscope assemblage as defined in Claim 19, characterized in that the transmitted light (15) and the fluorescent light (10, 13) are divisible on the side of the specimen (6) facing away from the light source (1), after passing through the condenser (7).

21. (withdrawn) The microscope assemblage as defined in Claim 20, characterized in that at least one color beam splitter (9, 12) is used to provide light to at least one fluorescent-light detector (11, 14).

22. (withdrawn) The microscope assemblage as defined in Claim 20, characterized in that a multiband detector is used for spectral separation.

23. (withdrawn) The microscope assemblage as defined in Claim 12, characterized in that the fluorescent light (10, 13) and transmitted light (15) are detectable in one detector.

24. (withdrawn) The microscope assemblage as defined in Claim 12, characterized in that the fluorescent light (10, 13) and transmitted light (15) are detectable in different detectors (11, 14; 16).

25. (withdrawn) The microscope assemblage as defined in Claim 12, characterized in that a polarization filter (19) is arranged before the transmitted-light detector (16).

26. (withdrawn) The microscope assemblage as defined in Claim 12, characterized in that an optical system is arranged in the beam path wherein the optical system consists essentially of a sector optical system, a sector polarization optical system, a sector stop (20), a sector phase stop and a sector phase filter

27. (withdrawn) The microscope assemblage as defined in Claim 26, characterized in that the optical system is arranged in a Fourier plane of the beam path.

28. (withdrawn) The microscope assemblage as defined in Claim 27, characterized in that the optical system, is arranged in the Fourier plane immediately before the transmitted-light detector (16).

29. (previously presented ) A microscope assemblage for confocal scanning microscopy comprising:

a light source (1) for illuminating a specimen (6);

at least one fluorescent-light detector (11, 14) for the detection of fluorescent light (10, 13) generated in the specimen (6), wherein the specimen (6) defines a top side (6a) facing the light source (1) and a bottom side (6b) facing away from the light source (1);

at least one transmitted-light detector (16) for the detection of transmitted light (15) passing through the specimen (6); said transmitted light comprising that light not produced by the fluorescence of said specimen; and,

an additional light source (21) operatively arranged on the side of the specimen (6) facing away from the light source (1) and arranged for illuminating said specimen; said light source (1) operatively arranged on a top side of said specimen, said additional light source (21) and said transmitted light detector (16) on the side facing away from said specimen operatively arranged to simultaneously detect said transmitted light and to illuminate said specimen.

30. (original) The microscope assemblage as defined in Claim 29, characterized in that the additional light source (21) is a white light source.

31. (previously presented) The microscope assemblage as defined in Claim 29, characterized in that an optical system is a member selected from the group consisting of a sector optical system, a sector polarization optical system, a sector stop, a sector phase stop and a sector phase filter, said optical system associated with said additional light source.

32. (previously presented) The microscope assemblage as defined in Claim 31, characterized in that the optical system is arranged in a Fourier plane before the additional light source (21).

33. (canceled)

34. (currently amended) The microscope assemblage as defined in Claim 29 ~~33~~, characterized in that a condenser (7) for the transmitted light (15) and the fluorescent light (10, 13) is arranged on the side of the specimen (6) facing away from the light source (1).

35. (original) The microscope assemblage as defined in Claim 34, characterized in that an objective (5) is arranged between the light source (1) and the specimen (6) and the aperture of the condenser (7) is larger than the aperture of the objective (5).

36. (original) The microscope assemblage as defined in Claim 35, characterized in that the transmitted light (15) and the fluorescent light (10, 13) are divisible on the side of the specimen (6) facing away from the light source (1), after passing through the condenser (7).

37. (original) The microscope assemblage as defined in Claim 36, characterized in that at least one color beam splitter (9, 12) is used to provide light to at least one fluorescent-light detector (11, 14).

38. (original) The microscope assemblage as defined in Claim 36, characterized in that a multiband detector is used for spectral separation.

39. (original) The microscope assemblage as defined in Claim 29, characterized in that the fluorescent light (10, 13) and transmitted light (15) are detectable in one detector.

40. (original) The microscope assemblage as defined in Claim 29, characterized in that the fluorescent light (10, 13) and transmitted light (15) are detectable in different detectors (11, 14; 16).

41. (original) The microscope assemblage as defined in Claim 29, characterized in that a scanning device (4) is arranged on the side of the specimen (6) facing toward the light source (1).

42. (currently amended) The microscope assemblage as defined in Claim 29, characterized in that at least one detector (17) is arranged on the side of the specimen (6) facing toward the light source (1), on the side of ~~the~~ scanning device (4) facing away from the specimen (6).

43. (original) The microscope assemblage as defined in one of Claims 29, characterized in that the light source (1) is a laser.